and body size and shape. The size and shape of the guitar is especially critical to the seated player; the body of the guitar rests on their lap and against their chest while their right arm rests on the top of the guitar body. Each player will have a preferred variation of this position. Instruments that are too small or of unconventional shape cannot accommodate these positions. They are difficult to play and promote bad playing posture. Moreover, the small resonant bodies of these instruments paradoxically produce too little sound for performance purposes and too much sound for "silent" (i.e., quiet) practice. The latter is of importance when, for example, practicing in hotel rooms at night.

a1

Please amend the paragraph beginning on page 2, line 23 as follows:

Prior-art guitars have also been made wherein the hollow body is entirely eliminated, being replaced by a narrow solid-wood body to which the bridge is attached. Deployable extension arms attached to the instrument body are positioned to contact the player's body at selected points. One example of such an instrument is the "Traveler Guitar" made by a company of the same name in Redlands, CA. This instrument enables "silent" practice using either a stethoscope or electronic detection and amplification for presentation on earphones. However, it has neither the look nor the feel nor the sound quality of a hollow-bodied acoustic guitar. To approximate the shape of a conventional acoustic guitar, the "Soloette" travel/practice guitar manufactured by Wright Guitar Technology of Eugene, OR, employs three curved metal rods that are plugged into its solid body. These rods form a thin, linear outline of a conventional guitar body. However, a linear outline is not adequate to provide the guitarist with the "feel" of a real, three-dimensional guitar body. Moreover, this instrument lacks many of the other features of the present invention. The Compact Silent Electric Cello-SVC 200, designed by Yamaha Corp. of America and Japan, employs a solid central core with fixed and retractable elements attached, the latter to provide contact with the player's body.

Please amend the paragraph beginning on page 5, line 7 as follows:

In accordance with another aspect of the present invention, one or more support arms are pivotally coupled to the central unit and pivotal coupled at its distal end to a side panel. Securing means are provided to lock each pivot at selected rotational positions, whereby they may be secured either in their deployed positions or in their storage positions. In the latter case, the side panels are drawn in against the central unit.

a2

Please amend the paragraph beginning on page 5, line 19 as follows:

In accordance with another aspect of the present invention, electronic circuits are provided by which electrical signals from the pick-up, corresponding to vibrations of the strings, are amplified for presentation through either headphones or an amplifier/loudspeaker system. Additionally these electronic circuits modify the spectral and temporal characteristics of the electrical signals to approximate the resonance effects provided by the resonating hollow body of a conventional instrument.

a3

[Please amend the paragraph beginning on page 5, line 25 as follows:]

In accordance with another aspect of the present invention, electronic circuits for either tone generation or pitch detection are provided to facilitate tuning the instrument and circuits are provided for the generation of metronome sounds, which are combined electronically with the instrument's signals, allowing the player to hear both at once. Additionally, a line-input jack and circuit are provided to enable the player to hear prerecorded music while practicing and learning.

Please amend the paragraph beginning on page 6, line 19 as follows:

a4

Fig. 3 is a partially cut-away perspective drawing of the proximal portion of the central unit of the guitar of Fig. 1, showing the bridge and saddle, the string-path reverser and the string tensioning system, comprising opposing tuning machines (one of two is shown) mounted on a slotted tuning-machine block that

A4

is rigidly attached to the body portion by a spacer. For clarity, only one of six strings is illustrated.

Please amend the paragraph beginning on page 7, line 8 as follows:

A5

Fig.10 is a perspective view of the lower portion of the structures shown in Fig. 9 but with the bottom brace removed and displaced, illustrating the method of coupling. The bottom brace comprises, in part, a cylindrical rod spanning at least the distance between the tips of the side panels. Secured in each end of this rod is a metal post of smaller diameter. These are inserted into mating receivers affixed to the ends of each side panel.

Please amend the paragraph beginning on page 9, line 25 as follows:

A6

Fig. 4 shows in more detail the bridge 75 and the components received in the bridge slot 155. The bridge, which may be made of wood or other suitable material, is affixed to the top of the body near its proximal end, at a position determined by the tuning requirements of the instrument. Saddle 80, which is made of bone or a hard composite material, is received in bridge slot 95. In this embodiment, a piezoelectric under-saddle pick-up 155, such as the Model PU 0860-000 Piezo Guitar Pickup sold by AllParts of Katy Texas, is used. However, alternative sensors of other designs and placement locations may be substituted within the scope of this invention. The electrical lead wire 160 projects down through the bridge and guitar body and is dressed back to the electronics unit 85 (not shown in this figure.) In the illustrated embodiment, a strip of compliant material 165 is inserted between the saddle and the pickup. The compliant material improves acoustic coupling between the saddle and the pickup and, to the degree to which it is sound-absorbing, removes a portion of the string's vibrational energy before it is transmitted to the pickup, there by damping the vibration—i.e., shortening the "ring-down" time. This absorption emulates the loss of energy that is encountered in a conventional hollow-body acoustic guitar, which arises from radiation of sound energy into the surrounding air and from vibrational energy losses in the body material. Alternatively or additionally,

a6 con'd. compliant material with preferred acoustic properties can be interposed between the pickup and the bottom of the bridge slot.

Please amend the paragraph beginning on page 15, line 4 as follows:

a7 As illustrated in Fig. 18, additional electronic features are provided, which will be seen to be generally useful and to be particularly useful in a portable instrument, especially for practicing. An electronic tuning aid is included. Electronic circuitry for tuning aids is well known; such devices are produced by many manufacturers. Most operate on one of two principles: They either (1) generate tones audible to the player, who then adjusts the tension of each string until it sounds the same as the corresponding reference tone, or (2) employ a frequency-measurement circuit that detects the primary frequency of the plucked string and indicates, usually on a visual display, whether the string is tuned high, low, or on key. One embodiment of the present invention is the combination of a stringed musical instrument and a tuning aid. In another embodiment of the present invention, a stringed musical instrument is combined with an electronic metronome, the sounds of which may be transmitted directly to the player by way of the headphones that present the amplified and filtered signals from the pickup. Electronic circuits for metronomes also are well know. The present invention also provides for the input of electronic signals from other electronic audio sources, e.g., a tape or digital recorder, and for the combining of such sounds with those from the pickup.

Please amend the paragraph beginning on page 16, line 1 as follows:

a8 Fig. 19 illustrates a combined analog and digital implementation of the electronics portion of the present invention. As in the Fig.-18 embodiment, the pickup signals are first pre-amplified. These signals are then digitized by an analog-to-digital converter and the signal processing operations described with reference to Fig. 18 are then carried out in a digital signal processor, using digital filter techniques well known in the art [see, for example, Smith, Steven W, "the Scientist and Engineer's Guide to Digital Signal Processing", California Technical Publishing (1997, San Diego, CA.)] The processed signals are